



2501 M STREET NW, SUITE 300 WASHINGTON, DC 20037 202.833.3900 WWW.OCEANA.ORG

August 4, 2005

The Honorable Carlos Gutierrez
Secretary of Commerce
Office of the Secretary
United States Department of Commerce
14th Street and Constitution Avenue, NW
Washington, D.C. 20230

NOAA Section 515 Officer
NOAA Executive Secretariat
Herbert C. Hoover Building - Room 5230
14th and Constitution Avenue, N.W. Washington, D.C. 20230

Re: Petition for Initiation of Rulemaking to Protect Sea Turtles and Request for
Correction of Disseminated Information Pursuant to the Data Quality Act

Dear Secretary Gutierrez and NOAA Section 515 Officer:

Sea turtles have been swimming the world's oceans for over 130 million years. These beautiful and majestic creatures provide one of the last remaining links to the Cretaceous Period. In recent years, however, coastal development, pollution, and most importantly, fishing, have pushed these animals to the brink of extinction. Fishing vessels around the world catch hundreds of thousands of sea turtles annually, including an estimated 200,000 loggerhead sea turtles by longline fishing alone.¹ As a result of these fishing interactions, tens of thousands of turtles die each year.²

The present status of the loggerhead sea turtle demonstrates the peril in which an sea turtle species are placed. The loggerhead is listed under the Endangered Species Act as threatened throughout its range. 43 Fed. Reg. 32,800 (July 28, 1978). Because loggerhead sea turtles in the Northwest Atlantic account for 35-40% of total global nesting activity,³ the fate of the loggerhead population under United States jurisdiction has implications around the world.

¹ Lewison, R.L., S.A. Freeman and L.B. Crowder. 2004. Quantifying the effects of fisheries on threatened species: the impact of pelagic longlines on loggerhead and leatherback sea turtles. *Ecology Letters*, 7: 221 - 231.

² *Id.*

³ Ross, J.P. 1982. Historical decline of loggerhead, ridley, and leatherback sea turtles. pp. 189 195. In: Bjorndal, K.A. (ed.). 1995. *Biology and Conservation of Sea Turtles*. Washington, DC: Smithsonian Institution Press

The National Marine Fisheries Service (Fisheries Service) uses nesting beach surveys to estimate long-term population trends. The most recent data show that the number of loggerhead nests in Florida's Archie Carr National Wildlife Refuge, the site of the largest concentration of loggerhead nests in the western hemisphere, has dropped precipitously from nearly 18,000 nests in 1998 to 8,000 nests in 2004.⁴ The trend has persisted beyond normal variation in nesting activity and "could be indicative of a real decline."⁵ Because Florida hosts 90% of the North American loggerheads,⁶ this decline may spell disaster for the species. The northern loggerhead subpopulation nests may also be declining. Turtle Expert Working Group (TEWG), Assessment Update for the Kemp's Ridley and Loggerhead Sea Turtle Populations in the Western North Atlantic, U.S. Dep. Commer. NOAA Tech. Mem. NMFS-SEFSC-444, at p. 43.

Nesting beach data, however, do not tell the whole story. The truth is that scientists do not know the true status of loggerhead populations, or of any of the other turtle populations that spend time in U.S. waters and are affected by federally-authorized activities. While there are good estimates of the number of loggerhead nests, for example, scientists do not have enough information to make accurate population abundance estimates that include both adults and juveniles, and current estimates may be in error by as much as an order of magnitude. *Id.* at 80. Under the Endangered Species Act, the Fisheries Service is responsible for rebuilding all listed turtle populations, yet the agency permits fishing to kill thousands of sea turtles without knowing, through scientific study and collecting data, the impact the removal of these animals has on the ability of turtle populations to rebuild.

Following an Endangered Species Act, 16 U.S.C. § 1536, Section 7 Consultation on the Southeast U.S. Shrimp Fishery, the Fisheries Service issued a biological opinion on November 14, 1994 which declared that the "continued long-term operation of the shrimp fishery in the southeastern U.S. is likely to jeopardize the continued existence of the Kemp's ridley population." In that opinion, the Fisheries Service convened a Turtle Expert Working Group to advise it on sea turtle mortality caused by fishing. This team of population biologists, sea turtle scientists, and life history specialists was charged with identifying the maximum number of Kemp's ridley and loggerhead turtles that can be taken incidental to commercial fishing activities without delaying recovery or jeopardizing the continued existence of these species. The Working Group published a report of its findings in March 1998 and an update in November 2000, but concluded that it could not achieve its objective because there was not enough information. Instead, it made a series of recommendations for obtaining the information needed. These recommendations are sensible and reflect similar data needs for all sea turtle populations that spend part of their life cycle in U.S. waters. Five years later, the Fisheries Service has not followed through on these recommendations.

⁴ Unpublished data from Dr. Llewellyn Ehrhart, University of Central Florida, Orlando, Florida.

⁵ Dr. Alan Bolten, quoted in "Dramatic Decline Observed in Florida Loggerhead Nesting," CCC & STSL, Velador Newsletter, Issue 1, 2005. <http://www.cccturtle.org/velador/velart54.htm>

⁶ "loggerhead Nesting in Florida." Florida Fish and Wildlife Conservation Commission. Marine Turtle Program. http://www.floridamarine.org/features/view_article.asp?id=2411

Despite an unambiguous statutory mandate to use the best available science, 16 U.S.C. § 1536(a)(2), the Fisheries Service has ignored the advice of its own Working Group and continues to make arbitrary and capricious management decisions authorizing take limits that are unsubstantiated by scientific data. Additionally, the Fisheries Service, in allowing the senseless taking of sea turtles to continue effectively unmonitored, is violating its statutory duty to minimize bycatch. 16 U.S.C. § 1851(a)(9) (2005). Oceana requests, pursuant to 5 U.S.C. § 553(e), that the Department of Commerce, through the National Marine fisheries Service, initiate immediate rulemaking to promulgate regulations that protect sea turtles. As soon as possible, and no later than 12 months, the Fisheries Service should establish regulations requiring it to undertake the following actions recommended by the Working Group for all sea turtles that occur in U.S. waters:

1. Conduct population level assessments to accurately determine sea turtle abundance and population structure.⁷ TEWG at xii, 40, 92. The Fisheries Service must use in-water survey techniques, such as trawl or aerial surveys to obtain information to supplement those species for which the agency conducts nesting beach surveys. Currently, the Fisheries Service uses nesting beach surveys alone as a proxy for turtle abundance, but it is impossible to extrapolate the number of nesting females to a total population figure because the age structure of the turtle populations is unknown. Additionally, the time lag between sea turtle generations prevents the Fisheries Service from seeing changes in the number of nesting females resulting from its management choices until decades later. In other words, the agency is using a long-term indicator to set short-term take limits. The agency must therefore obtain data on sea turtles' oceanic and neritic life history stages by conducting in-water surveys for all listed turtle species.
2. Increase observer coverage to obtain accurate information on the number of sea turtles caught in all fisheries. Because the Working Group deemed current observer data inadequate, it used strandings as a proxy for turtle takes and mortality. However, the proportion of total mortality that strandings represent is unknown. The Working Group emphasized that "[t]he only way to develop accurate estimates of catch and mortality in fisheries is to provide observer coverage over a statistically valid portion of the fishing effort throughout the range of these turtles." TEWG at xiii. Therefore, the Fisheries Service must immediately implement levels of observer coverage that result in accurate and precise data.
3. Establish a quantitative method for determining take limits for biological opinions. *Id.* at x-xi. Setting the take limits is a crucial step in insuring that the fishery does not jeopardize sea turtle populations. The Working Group explored three methods and concluded that potential biological removal (PBR), a method currently used for marine mammals, could be applied to sea turtles, with modifications such as calculating a separate PBR for each life history stage to account for the difference in reproductive value and abundance among the life stages. *Id.* at 83. The fisheries Service should

⁷ Population structure is used to indicate the age and sex distribution within the population.

establish an annual age-specific PBR, or another conservative quantitative number, for each sea turtle population. Incidental take should not exceed these limits.

In addition, Oceana requests pursuant to the Data Quality Act, Pub. L. No. 106-5549515 (Dec. 21, 2000), that the Fisheries Service correct the numerous inaccuracies in information contained in the sea turtle biological opinions set forth in Exhibit A. These inaccuracies arise from the agency's failure to use the best available methods for collecting data on sea turtles and its failure to use the best available science to determine jeopardy and incidental take limits. For example, Dr. Selina Heppell, an expert in population modeling, recently informed the agency that it used sea turtle life history models and population analyses inappropriately in the Section 7 Consultation on the Atlantic Sea Scallop Fishery (Exhibit B). The agency's misuse of models has led to inaccurate conclusions which it must correct. Oceana is prepared to assist in any way that it can to help the Fisheries Service establish appropriate regulations to take these actions.

STATUTORY AND REGULATORY BACKGROUND

Several federal statutes and their implementing regulations apply to protecting endangered and threatened sea turtles and minimizing sea turtle bycatch, including the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the National Environmental Policy Act.

I. ENDANGERED SPECIES ACT

All sea turtles in United States waters are listed as threatened or endangered under the Endangered Species Act. For example, the loggerhead sea turtle was listed under the Endangered Species Act on July 28, 1978, as threatened throughout its range. 43 Fed. Reg. 32,808. Pursuant to Section 7(a)(1) of the Act, the Fisheries Service has the specific, affirmative duty to provide for the conservation of sea turtles by developing meaningful protections for their populations designed to improve the viability of the species. 16 U.S.C. § 1536(a)(1) (2005); *see also id.* §§ 1531(b), 1532(3). Thus, the Fisheries Service must actively pursue the recovery of the species.

Federal agencies, through formal consultation with the Fisheries Service, must insure that their activities, including federally managed fisheries, do not jeopardize the continued existence of listed sea turtles. 16 U.S.C. § 1536(a)(2) (2005); 50 C.F.R. § 402.14(a) (2005). In its analyses, the Fisheries Service must use "the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2) (2005). At the conclusion of formal consultation, the Fisheries Service issues a biological opinion advising whether the agency action is likely to jeopardize the continued existence of the species. Biological opinions may include an incidental take statement allowing the incidental take of sea turtles that would otherwise be prohibited by Section 9 of the ESA. *See id.* § 1536(b)(4). Section 9 prohibits the "taking" of listed species. *See id.* § 1538; 50 C.F.R. § 17.31 (2005). "Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19) (2005).

In addition, the Endangered Species Act provides for the development and implementation of recovery plans for listed species. *See id.* § 1533(f)(1). The plan must, "to the maximum extent practicable...incorporate...a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species; objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list." *See id.* § 1533(f)(1). "[T]he phrase 'to the maximum extent practicable' does not permit an agency unbridled discretion. It imposes a clear duty on the agency to fulfill the statutory command to the extent that it is feasible or possible." *Defenders of Wildlife v. Babbitt*, 130 F.Supp. 2d 121, 131 (D.D.C. 2001) (quoting *Fund for Animals v. Babbitt*, 903 F.Supp. 96, 107 (D.D.C. 1995)).

II. MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801-83, establishes a system for conserving and managing fish populations. Congress clarified and strengthened the Act through the Sustainable Fisheries Act Amendments (SFA) of 1996. Pub. L. No. 104-297 (Oct. 11, 1996) (codified in scattered sections of 16 and 46 U.S.C.). The SFA added National Standard 9 to the Act, providing that conservation and management measures must, to the extent practicable, minimize bycatch, and, to the extent that bycatch cannot be avoided, minimize bycatch mortality. 16 U.S.C. § 1851(a)(9) (2005). The SFA also requires that the Fisheries Service, in each fishery management plan, "establish a standardized reporting methodology to assess the amount and type of by catch occurring in the fishery." *See id.* § 1853(a)(11). Furthermore, the SFA authorizes the Secretary to "require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to [a fishery management] plan." *See id.* § 1853(b)(8).

The Fisheries Service has promulgated its interpretation of National Standard 9 and the bycatch reporting requirements of the SFA in its national standard guidelines. The guidelines provide that:

[a] review, and, where necessary, improvement of data collection methods, data sources, and applications of data must be initiated for each fishery to determine the amount, type, disposition, and other characteristics of by catch and bycatch mortality in each fishery When appropriate, management measures, such as at-sea monitoring programs, should be developed to meet these information needs.

50 C.F.R. § 600.350(d)(1) (2005).

The United States District Court for the District of Columbia recently held that Amendment 13 to the Northeast Multispecies Fishery Management Plan did not meet the requirements of the SFA because it "fails to fully evaluate reporting methodologies to assess bycatch, it does not mandate a 'standardized reporting methodology,' and it fails to respond to potentially important scientific evidence." *Oceana v. Evans*, No. 04-0811, 2005 WL 555416 43 (D.D.C. Mar. 9, 2005) (citing 16 U.S.C. §§ 1853(a)(11), 1851(a)(2) (2005)). The Court rejected

the Fisheries Service's argument that a fishery management plan need not specify a bycatch reporting methodology, stating "[b]y its very terms, an FMP that merely suggests a hoped-for result, as opposed to 'establish[ing]' a particular standardized methodology, does not measure up to the statute's requirements." *Oceana*, 2005 WL 555416 at 40 (citing 16 U.S.C. § 1853(a)(11) (2005)).

III. NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321-47, establishes a "broad national commitment to protecting and promoting environmental quality." *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 348 (1989). NEPA requires all federal agencies to prepare an environmental impact statement (EIS) whenever they propose "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C) (2005).

Regulations promulgated by the Council on Environmental Quality (CEQ), 40 C.F.R. §§ 1500-1508, provide the agencies guidance in their task of complying with NEPA. CEQ regulations require federal agencies, "to the fullest extent possible," to "[u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." *See id.* §§ 1500.2, 1500.2(e). The agency must use "high quality" information, including "[a]ccurate scientific analysis, expert agency comments, and public scrutiny," to fully inform decisions and actions. *See id.* § 1500.1(b).

PETITION FOR RULE MAKING

I. THE FISHERIES SERVICE MUST ACQUIRE ADEQUATE POPULATION DATA FOR ALL LISTED SEA TURTLES

The Fisheries Service must follow the Working Group's recommendation and conduct population level, life stage assessments using techniques such as in-water trawl or aerial surveys to adequately characterize sea turtle populations. TEWG at xii. As the Working Group explained, "[m]ore comprehensive surveys are needed to monitor the status of benthic stages of the population and multiple, index area studies that yield statistically valid CPUE [catch per unit effort] data are urgently needed." *Id.* at 48.

Federal law requires the Fisheries Service to gather and use adequate information to make decisions. The Endangered Species Act requires the agency to develop a recovery plan for the loggerhead sea turtle, and other listed species, that "shall, to the maximum extent practicable ... incorporate in each plan: ... (ii) objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list; and (iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal." 16 U.S.C. § 1533(1)(1) (2005). The Endangered Species Act also prohibits takes of listed sea turtles unless

the takes are pursuant to an incidental take statement. *See id.* §§ 1536(a)(2), 1539(a). The agency may only issue an incidental take statement if it finds after formal consultation that it can insure that such takes will not result in jeopardy to the species. *Id.* In determining whether or not a federal action is likely to jeopardize an endangered or threatened species, the Fisheries Service must use "the best scientific and commercial data available." *See id.* § 1536(a)(2).

In addition, NEPA requires federal agencies to conduct a detailed environmental analysis of their actions. 42 U.S.C. § 4332(2)(C) (2005). NEPA further provides that an agency must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." *See id.* § 4332(2)(E). CEQ regulations require federal agencies, "to the fullest extent possible," to "[u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." 40C.F.R. 991500.2, 1500.2(e). Therefore, NEPA requires the Fisheries Service, "to the fullest extent possible" to develop the data necessary to study and develop alternatives for avoiding jeopardy to, and promoting the recovery of, sea turtles.

Currently, loggerhead population data, for example, comes from nesting beach surveys. TEWG at 92. The Working Group explicitly articulated the shortcomings of these population datasets and data-gathering methods without the information about population structure and life stage survivorship. In particular, the loggerhead's population structure is unknown, which leads to great uncertainty in extrapolating from the nesting female population to the turtle population as a whole. The "multiple assumptions [that] must be made to translate nests into adult females, adult males, and juveniles of both sexes" are further weakened by a "lack of corroborating empirical estimates." *Id.* at 80. Because of the shortcomings of the datasets, "[i]n a species with a long age to maturity, such as the loggerhead, nesting trends alone may give an incomplete picture of population status." *Id.* at 49. Therefore, "[c]ontinued work towards developing estimates of take which do not negatively impact recovery is limited in meaning without a clear understanding of the status and condition of these stocks." *Id.* at xi.

In the face of the Working Group's findings, the legal standards explained above place a legal duty on the Fisheries Service to institute in-water surveys to adequately characterize the populations and life histories of loggerheads and other sea turtles. The Fisheries Service has a duty to create a recovery plan that "to the maximum extent practicable" assesses sea turtle populations. 16 U.S.C. § 1533(f)(1) (2005). Population information constitutes the essential "objective, measurable criteria" that would eventually permit a finding of recovery and ultimately a delisting of the sea turtle. Moreover, only accurate population information can be used to estimate the time required to achieve a sea turtle population's recovery, as well as determine when intermediate goals are reached. The Working Group recommended in-water surveys as a feasible method of assessing sea turtle populations, and described trawl surveys as "the best currently available means of obtaining information on the in-water abundance of sea turtle." TEWG at 8. Aerial surveys are another option for collecting population data.⁸

⁸ McDaniel, C. J., L. B. Crowder and J. A. Priddy. 2000. Spatial dynamics of sea turtle abundance and shrimping intensity in the U.S. Gulf of Mexico. *Conservation Ecology* 4(1): 15.

Therefore, collecting population structure and life history information using in-water trawl or aerial surveys are methods by which the Fisheries Service must "to the maximum extent practicable" fulfill its obligation of creating a valid recovery plan.

Furthermore, the Working Group concluded in its 2000 Report that "[s]etting a take limit or estimating the impact of take is necessarily a quantitative exercise that requires a substantial amount of information and a good understanding of how data uncertainty will affect the results." TEWG at 81. The Working Group recommended that the agency use in-water surveys to assess populations to determine what quantity of takes can be permitted without jeopardizing the species. *Id.* at 92. Thus the requirement to insure that agency actions do not jeopardize the continuing existence of the species also places a legal duty on the agency to conduct in-water trawl surveys or an equivalent assessment of populations and life histories.

Finally, because NEPA requires the Fisheries Service to study, develop, and describe alternatives to its actions, 42 U.S.C. § 4332(2)(E), NEPA also requires the agency to conduct in-water surveys of sea turtle populations and life histories.

II. THE FISHERIES SERVICE MUST ACQUIRE ADEQUATE TAKE AND MORTALITY DATA THROUGH THE USE OF AT-SEA OBSERVERS

Both the Magnuson-Stevens Act and the Endangered Species Act require that the Fisheries Service deploy at-sea observers to acquire adequate take and mortality data.

The Magnuson-Stevens Act requires that every fishery management plan establish "a standardized reporting methodology to assess the amount and type of by catch occurring in the fishery." 16 U.S.C. § 1853(a)(11). The recent federal district court decision in *Oceana v. Evans* reaffirms the well-established principles that the best available science requires the use of observers to report and assess bycatch data and that observer coverage levels must be specified in the fishery management plan. *Oceana*, 2005 WL 555416 43.

The Magnuson-Stevens Act and the Endangered Species Act also require that the agency use the best science available in making management decisions. 16 USC §§ 1851(a)(2), 1536(a)(2) (2005). In setting incidental take permits and determining whether fishing activities will jeopardize loggerhead populations, the Fisheries Service needs accurate estimates of sea turtle catch and catch mortality in fisheries. Currently, data on turtle takes come from ships' logbooks and estimates from a small number of observers, both of which are subject to multiple biases. Strandings may not serve as a proxy for turtle mortality, because the proportion of total fisheries-related mortality that strandings represent is unknown. The Working Group emphasized that "[t]he only way to develop accurate estimates of catch and mortality in fisheries is to provide observer coverage over a statistically valid portion of the fishing effort throughout the range of these turtles." TEWG at xiii. Therefore, the Working Group recommended the use of increased observers to quantify the incidental take of loggerhead sea turtles in fisheries. This recommendation should be applied to other listed sea turtles. The level of observer coverage needed depends on the desired accuracy and precision of by catch estimates and can vary per

fishery. The best available science, a 2003 study by Babcock, *et al*, recommends an initial coverage level of 50% for fisheries that encounter protected species such as sea turtles.⁹

III. THE FISHERIES SERVICE MUST ESTABLISH AN ADEQUATE STANDARDIZED METHOD FOR JEOPARDY DETERMINATION

The Endangered Species Act requires that the Fisheries Service insure that federally managed fisheries do not jeopardize sea turtle populations. 16 U.S.C. § 1536(a)(2) (2005); 50 C.F.R. § 402.14(a) (2005). Since the decision-making has been moved to the Fisheries Service regional offices, the jeopardy determination decision-making has not been standardized across biological opinions. Additionally, biological opinions are required to examine the direct effects of the proposed action, the environmental baseline, and the cumulative effects on sea turtles, 50 C.F.R. § 402.14(g), yet there is no quantitative method for setting take limits. Simply providing the number of permitted takes in biological opinions, without providing a quantitative rationale for that number, is arbitrary and capricious. The Fisheries Service must provide a rational basis for its incidental take limits to demonstrate that the takes will not jeopardize loggerhead populations or other sea turtle populations. 16 U.S.C. § 1539(a)(2)(B) (2005). Therefore, the agency must immediately develop an adequate quantitative method to establish take limits for loggerheads and other sea turtles.

To fulfill the Endangered Species Act requirement to develop measures which will lead to the delisting of the species, the take limits must not only prevent further sea turtle population declines, but must be conservative enough to enable the species to recover. *See id.* §§ 1532(3), 1533(f). Loggerhead sea turtles have been listed on the Endangered Species list as threatened throughout their range since 1978, and their status has not improved. 43 Fed. Reg. 32,800 (July 28, 1978). This indicates that the permitted takes have exceeded the level necessary to rebuild the loggerhead population. The record with other sea turtle populations is no better. The agency is required to do better in protecting these species.

In 2000, the Working Group examined three methods for determining take limits and concluded that, with modifications to account for differences in the reproductive value and abundance of the different loggerhead life stages, potential biological removal (PBR) is promising method to set conservative take limits. PBR is used under the Marine Mammal Protection Act (MMPA) to establish marine mammal take limits, capping bycatch at the "maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population." 16 U.S.C. § 1362(20) (2005). The Fisheries Service has examined the application of PBR to loggerheads in setting take limits in the North Pacific and found that, given adequate data on population size and growth rate, PBR provides "reasonable and defensible mortality limits."¹⁰ The agency must fully evaluate PBR and rival methods for quantitatively setting take

⁹ Babcock, E.A., E.K. Pikitch and C.G. Hudson. 2003. How much observer coverage is enough to adequately estimate bycatch? Washington, DC: Oceana.

¹⁰ Gerrodette, T. 1996. Estimation of allowable loggerhead and leatherback turtle mortality in the North Pacific Ocean by Potential Biological Removal (PBR) Calculation, pp. 99-104. *In*: Bolten, A.B., J.A. Weatherall, G.H. Balzs and S.G. Pooley (eds.) Status of Marine Turtles in the Pacific Ocean Relevant to Incidental Take in the Hawaii-based Pelagic Longline Fishery. NOAA Tech. Memo. NMFS-SWFSC-230. U.S. Dept. Commerce. At 100.

limits, and adopt the best alternative. *See id.* § 1536(a)(2). The method must be sufficiently conservative to enable endangered and threatened sea turtle populations to recover and rebuild. *See id.* §§ 1533(f), 1532(3). Additionally, these conservative estimates should serve as the maximum amount of take. Because sea turtles are listed under the Endangered Species Act, sea turtle takes should be minimized to the greatest extent possible.

Oceana is aware that the Fisheries Service has already done some work towards developing an adequate standardized method for determining jeopardy, but now is not the time for business as usual. Because the agency's current policies have catastrophically failed, resulting in little meaningful progress towards recovery, and leaving the agency with no rational basis for determining whether any federal activity that takes sea turtles would cause jeopardy, the agency must work speedily to complete its work and establish an adequate method for setting take limits. Specifically, Oceana is aware that the agency held a workshop in August 2004 to discuss risk assessment and the analytical framework used to evaluate jeopardy, but, nearly one year later, no regulatory changes have emerged from these discussions. Regulations must be adopted immediately to insure that biological opinions use a standardized method to make decisions. Oceana is also aware that the agency has contracted with Dr. Selina Heppell to prepare a review of quantitative methods for determining jeopardy.¹¹ Oceana asks that the Fisheries Service consider her recommendations carefully. The agency must work quickly to implement a standardized method of determining jeopardy for sea turtles and for setting incidental take levels.

REQUEST FOR CORRECTION OF DISSEMINATED INFORMATION PURSUANT TO THE DATA QUALITY ACT

The above petition sets forth inadequacies and inaccuracies in information disseminated by the Fisheries Service in numerous documents. Specifically, the Fisheries Service has disseminated information concerning the population status, fisheries impacts, permissible incidental take, and jeopardy status of loggerhead and other sea turtles in numerous biological opinions, including the biological opinions specified in Exhibit A attached hereto. This inaccurate information adversely affects the interests of Oceana and its members by allowing the sea turtles Oceana and its members seek to protect, enjoy, and study to be subject to continuing risk of extinction. In addition, this inaccurate information prevents or delays the recovery of sea turtle populations and impedes Oceana's efforts to protect sea turtles.

The biological opinions referenced in Exhibit A are assessments of risks to the environment, namely the risk of extinction posed to sea turtles by agency actions. Therefore, they are subject to the risk assessment standards set forth in the NOAA Information Quality Act Guidelines. *Available at* <http://www.noaanews.noaa.gov/stories/ig.htm> (last visited Jul. 14,

¹¹ Letter transmitted from Dr. Nancy Thompson of the Southeast Fisheries Science Center to Dr. Selina Heppell, April 14, 2005.

2005). According to these guidelines, the agency must use the "best available science" in these biological opinions and "collect data" by "best available methods." *Id.* By ignoring the Working Group recommendations, failing to collect data through in-water surveys and at-sea observers, and failing to adopt an adequate quantitative method for determining jeopardy and setting take limits, the agency has violated the guidelines. Furthermore, the guidelines require that quantitative risk assessments such as biological opinions make specific findings as to "the expected, or central estimate of risk" for the affected population and the upper and lower bound estimates of risk. *Id.* In addition, the biological opinion must adequately identify data gaps and other significant uncertainties in the assessment and the studies that could resolve those uncertainties. *Id.* By failing to collect data by best available methods and failing to adopt an adequate standardized method for determining jeopardy, the biological opinions violate these requirements as well.

Accordingly, Oceana hereby requests, pursuant to Section 515 of Public Law 106-554, that the Fisheries Service correct the information disseminated in the biological opinions referenced in Exhibit A.

CONCLUSION

The efforts made by the fisheries Service to conserve listed sea turtles need dramatic improvement, both domestically and internationally. In United States waters, the agency is permitting sea turtle mortality to occur at levels which have unknown and potentially devastating consequences. Internationally, the United States is not using all of the tools at its disposal to protect listed sea turtles from intentional and incidental takes. To fulfill its statutory obligations, the agency must ascertain the impact of all sea turtle mortality, and take appropriate mitigation steps, both domestically and internationally. The most appropriate and best scientific method of making this mortality determination is by conducting in-water surveys to obtain population estimates and life history information and increasing observer coverage to quantify actual incidental takes and mortality. With that information, the agency can then use a standard modeling methodology to set take limits.

Even though they were listed over twenty- five years ago, the status of loggerhead sea turtles has not improved. Other sea turtle species have fared no better. Sea turtles remain the target of multiple threats, most significantly, incidental take by commercial fisheries. The Fisheries Service has both the authority and the duty to protect the declining sea turtle populations. Nearly five years ago, your scientific expert advisors in the Working Group laid out your next steps for sea turtle conservation. It is time to act. Oceana understands that a new Working Group is scheduled to reconvene in 2005, and Oceana urges you to take its recommendations seriously. It is imperative that the agency immediately adopt rules and take action to reform its data collection methods, adopt an adequate standardized methodology to determine jeopardy and set incidental take levels, and apply the best available science and information quality guidelines to correct the information in existing and future biological opinions. These steps will allow the agency to protect and promote the recovery of loggerhead and other sea turtle species. The fate of these threatened and endangered species is in your hands.

Hon. Sec'y Gutierrez
Page 12 of 12
August 4, 2005

Sincerely,

A handwritten signature in black ink, appearing to read "MH", with a stylized flourish at the end.

Michael Hirshfield, Ph.D.
Vice-President for North American Oceans and Chief Scientist

EXHIBIT A

Endangered Species Act Section 7 Biological Opinions for Atlantic Ocean Fisheries Interacting with Sea Turtles

- *April 28, 1999.* Endangered Species Act Section 7 Consultation on the Fishery Management Plan for the Atlantic Mackerel, Squid, and Atlantic Butterfish Fishery and Amendment 8 to the Fishery Management Plan
- *July 2, 1999.* Endangered Species Act Section 7 Consultation on the Fishery Management Plan for the Atlantic Bluefish Fishery and Amendment 1 to the Fishery Management Plan
- *September 17, 1999.* Endangered Species Act Section 7 Consultation on the Federal Atlantic Herring Fishery Management Plan
- *March 13, 2001.* Endangered Species Act Section 7 Consultation on NMFS' approval of the Tilefish Fishery Management Plan
- *June 14, 2001.* Endangered Species Act Section 7 Consultation on Authorization of fisheries under the Northeast Multispecies Fishery Management Plan [Consultation No. F/NER/2001/00330]
- *June 14, 2001.* Endangered Species Act Section 7 Consultation on Authorization of fisheries under the Spiny Dogfish Fishery Management Plan [Consultation No. F/NER/2001/00544]
- *December 16, 2001.* Endangered Species Act Section 7 Consultation on Authorization of fisheries under the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan [Consultation No. F/NER/2001/01206]
- *February 6, 2002.* Endangered Species Act Section 7 Consultation on the Implementation of the Deep-Sea Red Crab, *Chaceon quinque-dens*, Fishery Management Plan [Consultation No. F/NER/2001/01245]
- *May 8, 2002.* Endangered Species Act Section 7 Consultation on Regulation of the Pound Net Fishery in Virginia Waters of the Chesapeake Bay
- *August 13, 2002.* Endangered Species Act Section 7 Consultation on the Issuance of an Exempted Fisheries Permit to the Maine Department of Marine Resources to Develop and Test a species-specific Jonah Crab, *Cancer borealis*, Trap in Federal Lobster Management Area 1 [Consultation No. F/NER/2001/01251]
- *October 31, 2002.* Endangered Species Act Section 7 Reinitiation of Consultation on Federal Lobster Management in the Exclusive Economic Zone for Implementation of Historical Participation [Consultation No. F/NER/2001/O1263]

- *December 2, 2002.* Endangered Species Act Section 7 Consultation on Shrimp Trawling in the Southeastern United States, under the Sea Turtle Conservation Regulations and as Managed by the Fishery Management Plans for Shrimp in the South Atlantic and Gulf of Mexico
- *July 24, 2003.* Endangered Species Act Section 7 Consultation on Authorization of fisheries under Skate Fishery Management Plan [Consultation No. F/NER/2003/00751]
- *August 27, 2003.* Endangered Species Act Section 7 Consultation on the Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic Ocean
- *October 29, 2003.* Endangered Species Act Section 7 Consultation on the continued operation of Atlantic shark fisheries (commercial shark bottom longline and drift gillnet fisheries and recreational shark fisheries) under the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (HMS FMP) and the Proposed Rule for Draft Amendment 1 to the HMS FMP, July 2003
- *June 1, 2004.* Endangered Species Act Section 7 Reinitiation of Consultation on the Atlantic Pelagic Longline Fishery for Highly Migratory Species
- *December 15, 2004.* Endangered Species Act Section 7 Consultation on the Atlantic Sea Scallop Fishery Management Plan [Consultation No. F/NER/2004/01606]

EXHIBIT B

Dr. Selina S. Heppell
2065 NW Arthur Place
Corvallis, OR 97330

Dr. Michael Sissenwine
Chief Science Advisor, NOAA Fisheries

March 13, 2005

Dear Dr. Sissenwine,

As one of the primary developers of life history models and population analyses for sea turtles in the U.S., I am very concerned about the application of these models in a recent jeopardy decision regarding impacts of the scallop dredge and trawl fisheries in the South Atlantic Bight on sea turtles (Consultation No. F/NER/2004/01606). Regardless of the outcome of the jeopardy ruling, the deterministic life table models cited in the BiOp (Heppell et al. 2003 and NOAA Tech Memo 455 2001) are inappropriate tools for such quantitative decision making. There are 3 primary issues:

1) The models "developed" by Heppell et al. 2003 and further modified in NOAA Tech Memo 455 are relatively minor updates of a deterministic life table for loggerhead turtles (*Caretta caretta*) originally formulated by Frazer (1983, 1987). Frazer's motivation for the development of a life table was to describe the life cycle and demographic characteristics of a declining population of loggerhead turtles nesting at Little Cumberland Island, Georgia (Heppell et al. 2003). His life table was converted to a deterministic stage-structured matrix model by Crouse et al. (1987) and Crowder et al. (1994). Frazer's original survival rates for nearshore-feeding juvenile and sub-adult loggerheads were calculated from catch curves of dead, stranded loggerheads on Georgia beaches, and juveniles captured in trawls in Florida. Due to a lack of information on age, the mortality estimates from these data were based on length of animals converted to age with a growth curve (Frazer 1983). Although the length of time that turtles spend in each life stage has been updated with new growth rate information, the baseline survival rates used with the new growth curves were based on those originally estimated in the mid-1970's (Models 1 and 3) or from a catch curve analysis of strandings from 1986-1989 (pre-TED implementation) (Model 4 - NOAA Tech Memo 455, page 19). The effects of Turtle Excluder Devices on annual survival rates has never been quantified, which led modelers to present a series of hypothetical changes in population size that could result from a range of TED-effectiveness scenarios (Crowder et al. 1994, Heppell et al. 2003, NOAA Tech Memo 455). Thus, at best, the survival rates of loggerhead turtles used in the models are based on empirical estimates from Frazer's work in the 1970s or strandings from the late 1980s; any modification of these estimates is conjecture. The survival rate parameters for turtles in the size classes taken by the scallop fishery are not based on a current empirical estimate; unless there has been no change in the mortality rate of loggerhead turtles caught in the scallop fishery since the mid-1970s or late 1980s, the mortality rate estimates used in the models of Heppell et al. 2003 and NOAA Tech Memo 455 do not account for this fishery.

2) Because the life table models are deterministic and include several unknowns, it is not obvious what constitutes a "conservative" set of parameters. Age at maturity, TED effectiveness, improvements in pelagic survival due to longline regulations, primary sex ratios, and population growth rate prior to 1990 are all uncertain parameters that were explored factorially in NOAA Tech Memo 455. The Biological Opinion cites results from a model with late age at maturity and low primary sex ratio (35% female) as a conservative

model that predicts population growth due to projected improvements in survival following TED and pelagic longline regulations. However, models with late age at maturity require high stage-specific survival rates to achieve a particular pre-1990 population growth rate. Thus, a 10% increase in those rates, due to a hypothetical improvement following TED implementation or longline regulations, can lead to a biologically unrealistic survival rates and subsequently unconservative population responses. This is not a fault of the model or the Tech Memo authors; it is simply a result of some of the 64+ different parameter combinations explored.

3) Exploration of different management scenarios and heuristic evaluation of potential population responses is the best use of these simple, deterministic models. In all of the papers that have modified Frazer's original life table, the authors repeat a common theme: "the population trajectory plots should not be used to quantitatively assess population size" (NOAA Tech Memo 455). This can be extended to any quantitative assessment, including jeopardy determination. These models were developed, in the absence of most quantitative stock assessment parameters, to generally evaluate the relative impacts of different management strategies on sea turtle populations. The caveats of these models and the sources of their parameters are not detailed in the BiOp.

While I fully appreciate the need to apply the "best available science" to decision-making, the application of inappropriate models is not good science. I strongly urge the NEFSC to re-evaluate the jeopardy decision in this case, understanding that Frazer's mortality estimations from the 1970s did not subsume the takes estimated for the scallop fishery and that there has not been a formal evaluation of the likelihood of results from the vast array of models explored in the Tech Memo. I also suggest that they abandon these heuristic, highly uncertain life table models as evidence for population change or stability, as the Turtle Expert Working Group recommended (TEWG 2001). As stated in Heppell et al. 2003: "Although the results from the early models are likely to be qualitatively robust, researchers should not be relying on heuristic analysis of possible population changes today based on survival rates calculated for a single subpopulation 30 years ago."

Because there was no public comment period for this BiOp, and because I only recently became aware of the use of these models in this Biological Opinion, I am sending this letter directly to your office, the Tech Memo authors (S. Epperly and M. Snover), NEFSC, and the NE Fishery Management Council. While I have not sent a copy to the plaintiffs in the case, I have made Oceana aware of my intentions to submit this letter to NMFS and to the Fishery Management Council by e-mail and fax. I welcome your response, and would be happy to clarify any of my concerns, if necessary.

Sincerely,

/s/

Dr. Selina Heppell

Cc: Laurie Allen, Office of Protected Resources

Patricia Kurkul, NEFSC

Rebecca Lent, Deputy Asst. Admin. For Regulatory Programs Sheryan Epperly, SEFSC

Melissa Snover, PIFSC

Patricia Fiorelli, NEFMC

George Lapoint, Commissioner, NEFMC